

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF APPEALS

In re Patent Application of:  
NORDSTROM ET AL.

Serial No. 09/555,816

Confirmation No: 9460

Filing Date: OCTOBER 10, 2000

For; DATA SCRAMBLERS

Examiner: B. HOFFMAN

Art Unit: 2136

APPELLANTS' REPLY BRIEF

MS Appeal Brief-Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Herewith is Appellants' Reply Brief that is submitted in reply to the Examiner's Answer to Appellants' Appeal Brief. If any additional extensions and/or fees are required, authorization is given to charge Deposit Account No. 01-0484.

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I. Status of the Claims

Claims 1-23 have been canceled. All of Claims 24-46  
pending in the present application are rejected. All of Claims 24-  
46 are the subject of this appeal.

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II. Grounds of Rejection to be Reviewed On Appeal

In response to the arguments presented in Appellants' Brief filed June 15, 2004, the Examiner withdrew the previous rejection made in the final office action. Claims 24-46 now stand rejected under 35 U.S.C. §103 over Klover (U.S. Patent No. 4,539,684) in view of Isaksson et al. (WIPO 9503656).

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### III. Argument

As pointed out in Appellants' Appeal Brief, the invention is related to multi-carrier transmission systems, e.g. including copper based transmission systems such as ADSL, VDSL and HDSL which use DMT and/or radio based transmission systems using OFDM. More specifically, the claimed invention is directed to data scramblers, descramblers, systems and methods making use of the synchronization frames, normally used for measuring channel characteristics, as a source of pseudo-random data that is combined with user data.

Appellant agrees that Kloker is directed to a communication system including an encoder and decoder for the transmission of digital information over a transmission medium. The system includes the use of frame synchronization and error correction. The encoder processes a data stream and generates a transmission bit stream of N bits using convolutional encoding, auto-synchronization sequence combining, and bit interleaving. The Examiner has cited Kloker for the use of an auto-synchronization sequence combined with input data to reduce the transmission bit stream and obtain frame synchronization at the receiver using a multiphase sequential decoder, as shown, for example, in FIG. 3 of Kloker.

As correctly recognized by the Examiner, Kloker is not directed to a multi-carrier transmission system. Therefore, there is nothing in Kloker that teaches or suggests the desirability of the bit stream reducing process in a data scrambler or descrambler of a multi-carrier transmission system using, for example, DMT, or OFDM as id disclosed in the secondary reference to Isaakson et al.

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The Isaksson et al. reference is a published Telia application (the present assignee) and relates to a method and apparatus for synchronization of transmitters and receivers in OFDM type digital transmission systems. The approach uses synchronization frames. However, there is no teaching of a scrambler, descrambler or the use of any synchronization frames, normally used for measuring channel characteristics, as a source of pseudo-random data which can be combined with incoming user data. Moreover, there is no discussion of any need, desire or problem whatsoever associated with an uncorrelated data stream for transmission.

As such, and as emphasized in the Appeal Brief, Appellants maintain that the Examiner is impermissibly using the teachings of Appellants' own patent application as a template to combine unrelated techniques of the prior art. For example, as noted above, the method and apparatus of Isaakson et al. does not discuss or teach the use of a scrambler, descrambler or any synchronization frames as a source of pseudo-random data. Also, Kloker is concerned with reducing the length of the transmission bit stream and not with producing an uncorrelated data stream for transmission in a multi-carrier transmission system.

There is simply no teaching or suggestion in the cited references to provide the combination of features as claimed. Accordingly, for at least the reasons given above, Appellants maintain that the cited references do not disclose or fairly suggest the invention as set forth in Claims 24-46. Furthermore, no proper modification of the teachings of these references could

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result in the invention as claimed. Thus, the rejections under 35 U.S.C. §103(a) should be withdrawn.

#### IV. Conclusion

In light of Appellants' reply to the Examiner's arguments, it is respectfully submitted that all of the claims are patentable over the prior art. Appellants, therefore, respectfully request that the Board of Patent Appeals and Interferences reverse the earlier unfavorable decision of the Examiner.

Respectfully submitted,



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Michael J. Holmes

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**FACSIMILE COVER SHEET**

**TO:** Board of Appeals - United States Patent and Trademark Office; Art Unit: 2136

**CLIENT NAME/NUMBER:** 54319

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**FROM:** Paul J. Ditmyer, Esq.

**DATE:** November 20, 2007

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**COMMENTS/INSTRUCTIONS:**

Please see attached Appellant's Reply Brief.

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